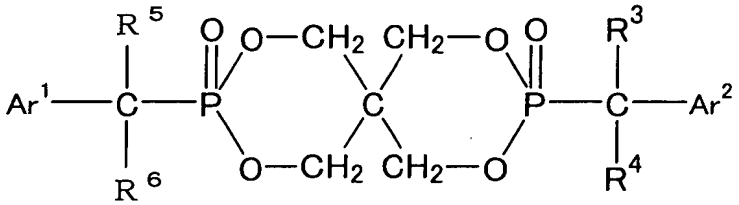
ABSTRACT

A process for producing a pentaerythritol diphosphonate represented by the formula (5) characterized by (A) reacting phosphorus trichloride with pentaerythritol in the presence of an inert solvent to obtain pentaerythritol dichlorophosphite (reaction (a)), (B) reacting the pentaerythritol dichlorophosphite with an aralkyl alcohol to obtain a pentaerythritol diphosphite (reaction (b)), and (C) heat-treating the pentaerythritol diphosphite in the presence of a halogenated compound on the condition of a temperature of from 80 to 300°C (reaction (c)):



(5)

wherein Ar^1 and Ar^2, which may be the same as or different from each other, each represents a substituted or unsubstituted aryl group having from 6 to 20 carbon atoms, and R^3, R^4, R^5 and R^6, which may be the same as or different from each other, each represents a hydrogen atom, a substituted or unsubstituted aryl group having from 6 to 20 carbon atoms, or a saturated or unsaturated hydrocarbon group having from 1 to 20 carbon atoms.

According to the production process of the invention, a particular pentaerythritol diphosphonate capable of being

utilized as a fire retarding agent and the like can be provided with high purity and high yield by an industrially advantageous process excellent in productivity.